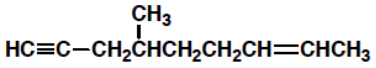
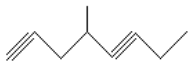
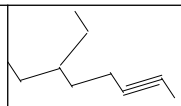
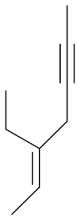
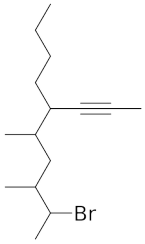
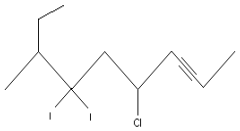
Assignment 4: Naming & Drawing Alkynes Compound

1. Name the below compound according to IUPAC Naming Method

2. Draw the below compound

a. 3,4-dimethylcyclooctyne	d. 1,1,1-triiodo-4-methyl-2-nonyne
b. 5-methyl-1,3-hexadiyne	e. 3-methyl-2,4,6-octatriene
c. 1-octen-7-yne	f. 1-cyclopentyl-1-butyne

3. Write structural formula and name products that are expected from the reaction:
   a) 1-butyne, H_2 / Pt
   b) 2-butyne, H_2 / Pd, Pb^{2+} (Lindlar catalyst)
   c) 2-pentyne, Na / NH_3 (metal-ammonia reduction)

4. How could you prepare propyne from isopropyl bromide as a starting material? You may use any necessary organic and inorganic reagents.

5. Outline efficient syntheses of 1-heptyne from acetylene and any necessary organic reagents